

Oral Health Expenditures

Alaska Health Care Commission

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Brad Whistler, DMD

Dental Official

DPH Section of Women's, Children's and Family Health



Overview of factors influencing dentist distribution, fees and/or expenditures

- Cost of education – includes equipment purchase
- Most dentists are general practitioners
- Significant amount (about 40%) of reimbursement is out-of-pocket
- Dental practice – 78% sole practice (facility, administrator and practitioner)
- Surgical model of care (public health push to move to an infectious disease model of care)
- Mobility of dentists – private vs. Tribal/FQHC dentists
- Medicaid participation and treatment of other underserved populations
- Dental insurance (prepayment for services)
- More than twice as many dental uninsured as those without medical insurance (more than 130 million Americans)
- Almost 90% of dentists practice in metropolitan areas (<1% are located in rural areas)



Cost of dental education (ADEA)

	2001-02	2010-11
Average total resident dental school costs	\$ 88,534	\$171,023
Average total non-resident dental school costs	\$128,453	\$233,808

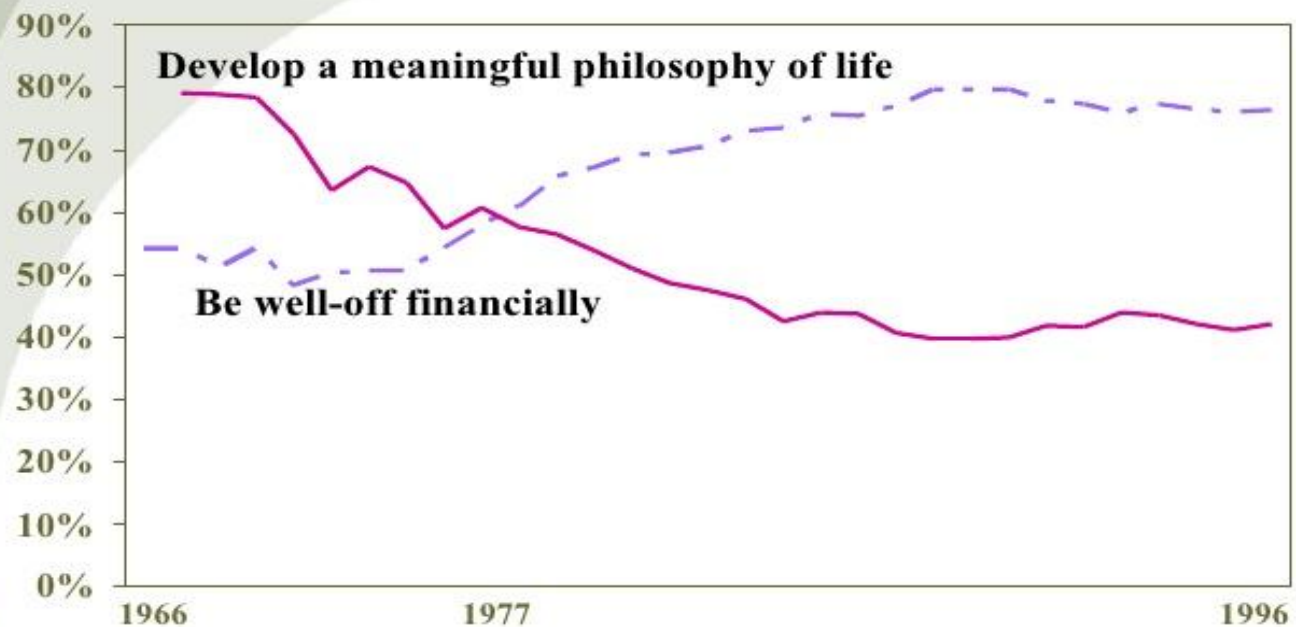
Average debt (2010):	\$197,366
Public Dental Schools	\$174,967
Private Dental Schools	\$232,780

- Nearly 1 in 4 graduates in 2010 left dental school with more than \$250,000 in student loans
- About the same ratio of students reported no debt or debt less than \$100,000



Value Trends of Entering College Freshmen: 1966-1996

(Valachovic et al. JDE, 2001)



Source: Higher Education Research Institute, Univ. of California, Los Angeles

Percent of Professionally Active Dentists by Gender and Race/Ethnicity

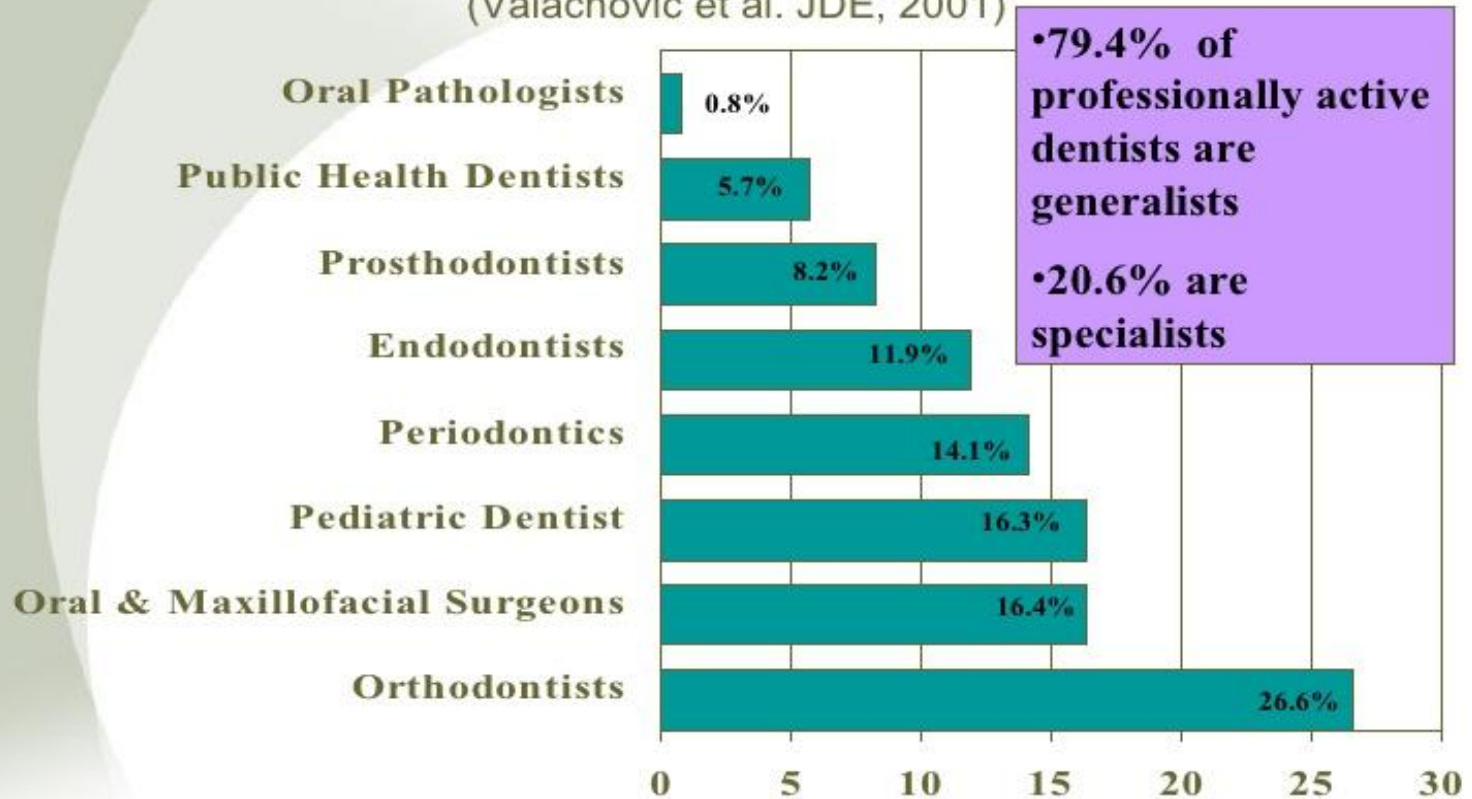
(Valachovic et al. JDE, 2001)

Male	85.9%
Female	14.1%
Native American	0.1%
Asian/Pacific Islander	6.9%
Black/African American	3.4%
Hispanic/Latino	3.3%
White/Caucasian	86.3%

Source: American Dental Association
Bureau of Health Professions, HRSA

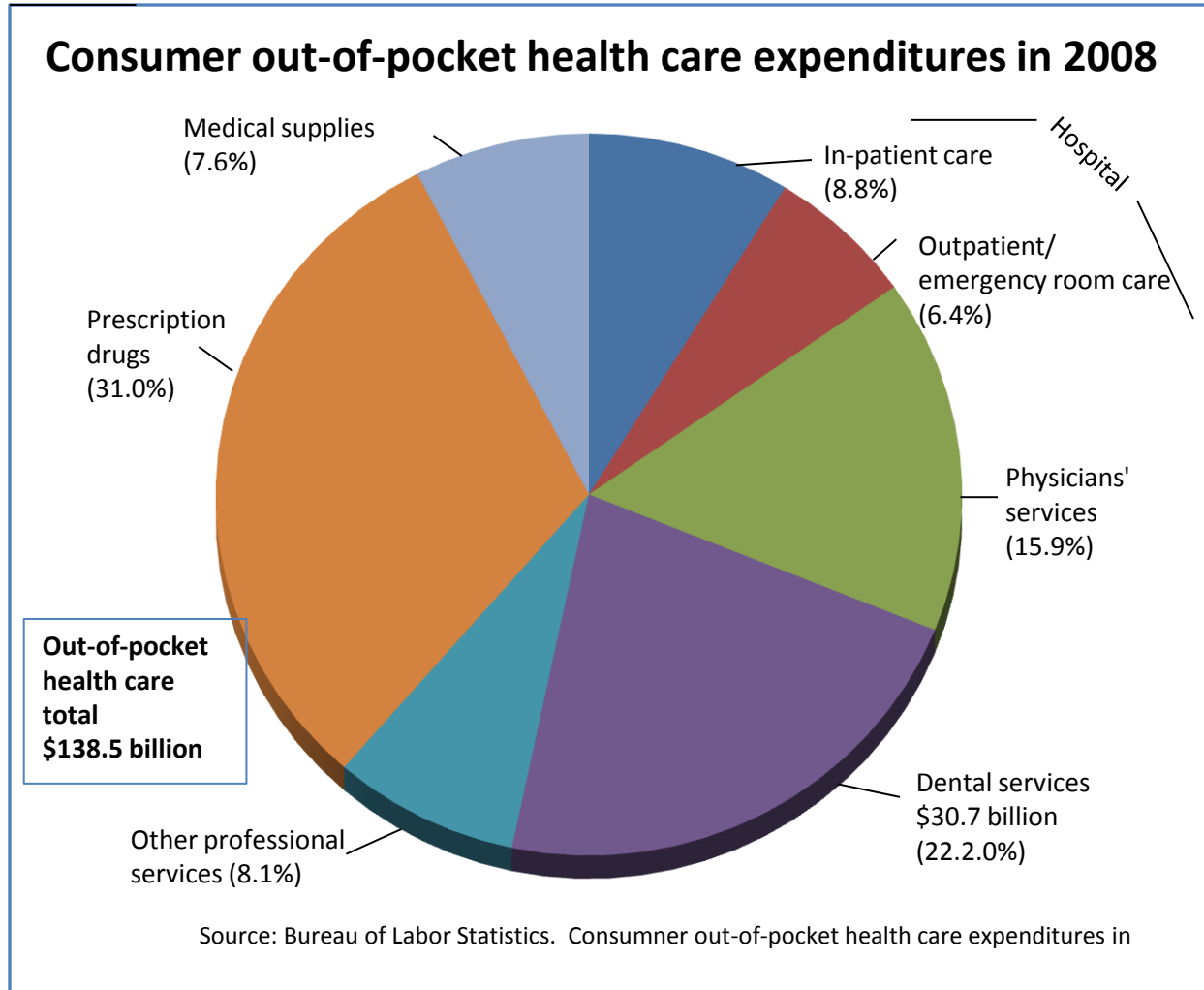
Percent Distribution of Professionally Active Dental Specialists: 1998

(Valachovic et al. JDE, 2001)



Source: American Dental Association

Out-of-Pocket Health Expenses



Dental Service Expenditures (2011)

2011 (as reported by the U.S. CMS)

- \$108.4 Billion
- Approximately 4% of U.S. health expenditures
- Increased 3.0% in 2011 (2010 increase of 2.7%)
- Out-of-pocket spending for dental services increased by 4.1% in 2011 (0.7% increase in 2010)

2010 (as reported by the ADA)

Average net income private dentist (owned all or part of practice): \$192,680

Average gross receipts per owner dentist: \$727,630

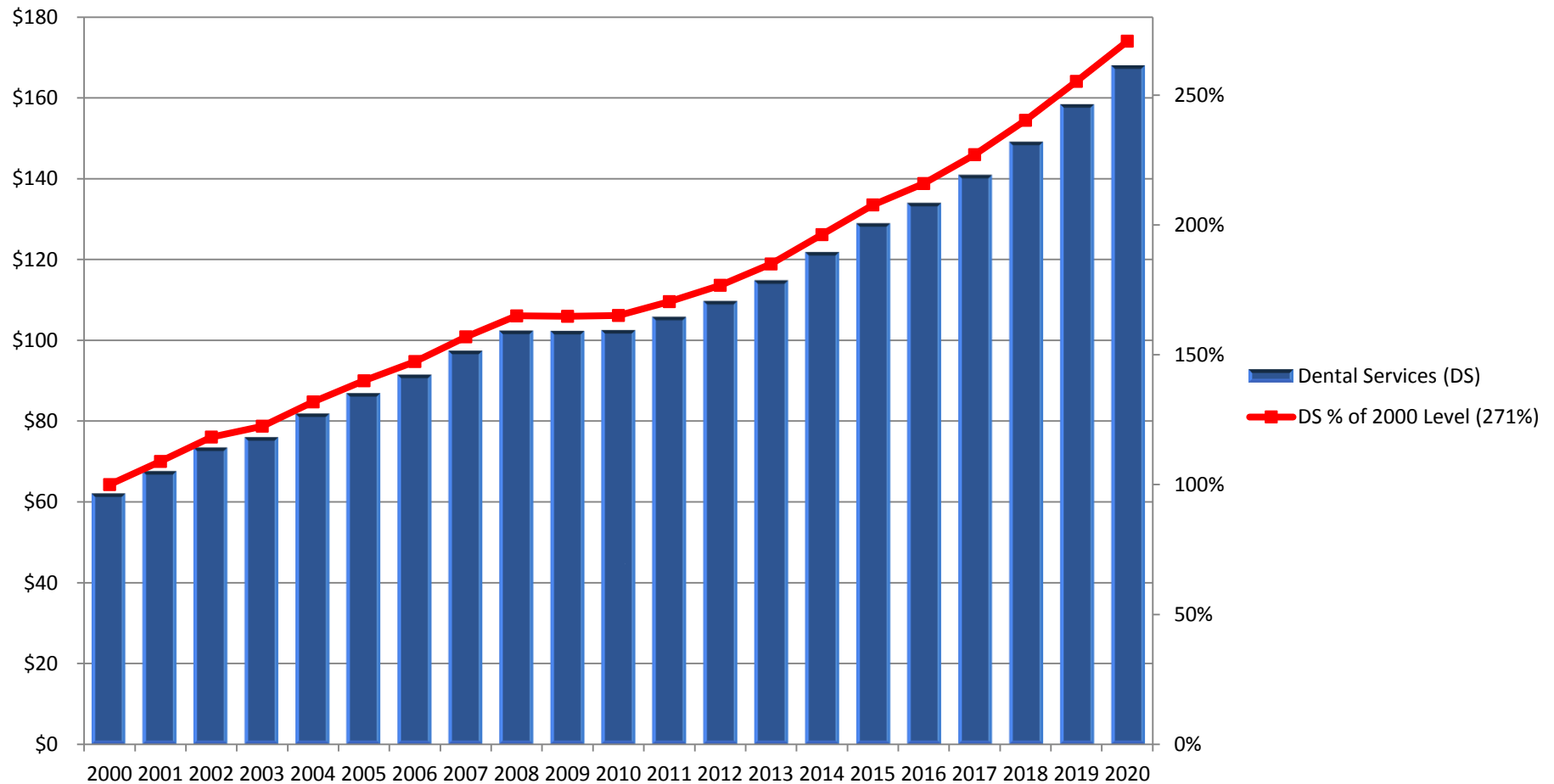
Average dental specialist income: \$305,820

Average gross receipts for a dental specialist: \$1,004,820



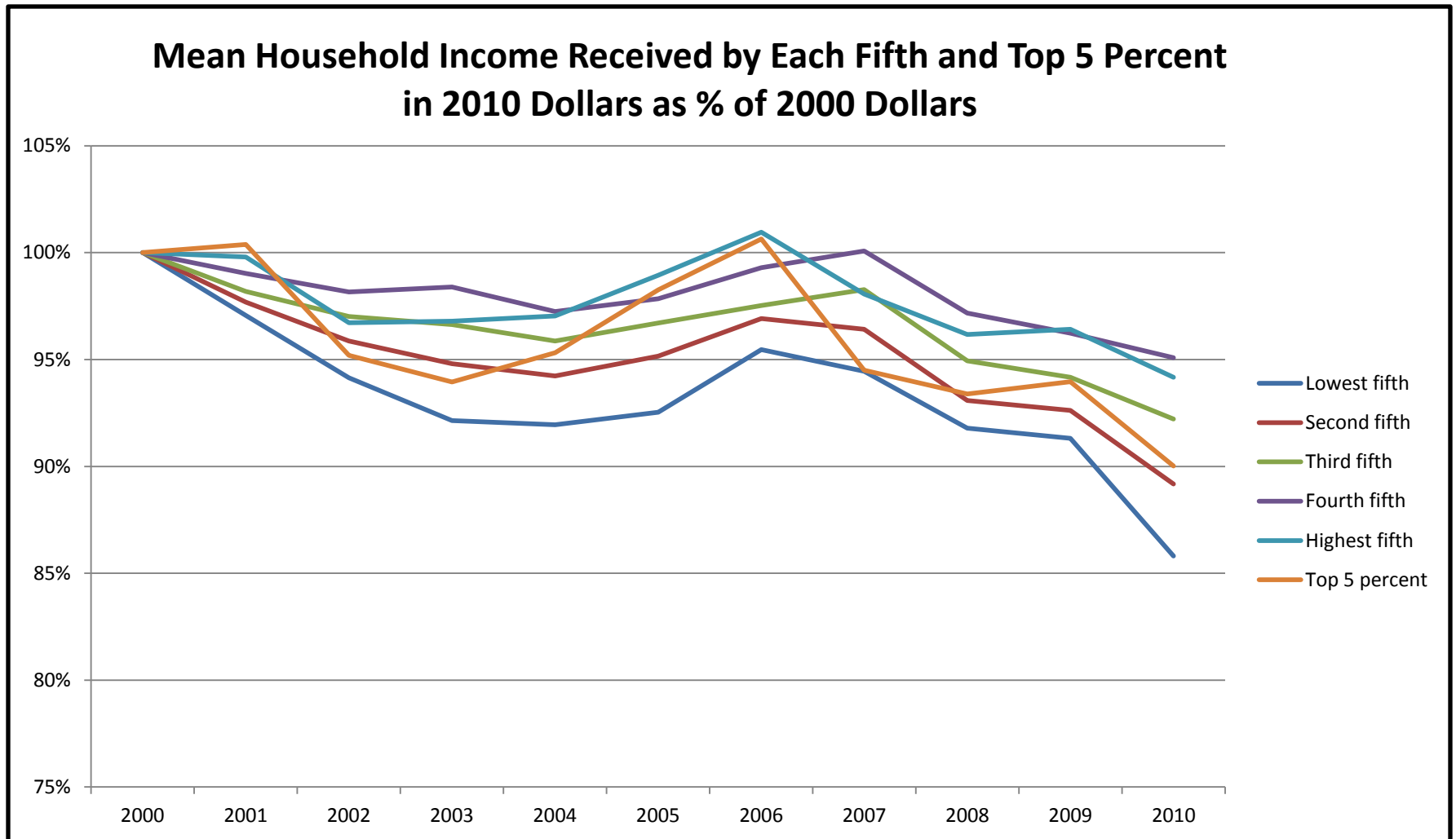
Oral Health Expenses

U.S. National Dental Expenditures 2000 - 2020 (\$ Billions)



Source: CMS National Health Expenditure Projections 2010-2020, <http://www.cms.gov/NationalHealthExpendData/downloads/proj2010.pdf>.

Mean US Household Income



Source: CMS National Health Expenditure Projections 2010-2020
<http://www.cms.gov/NationalHealthExpendData/downloads/proj2010.pdf>

An analysis of dentists' incomes, 1996-2009

Marko Vujicic, PhD; Vickie Lazar, MA, MS; Thomas P. Wall, MA, MBA; Bradley Munson, BA

JADA 2012;143(5):452-460.

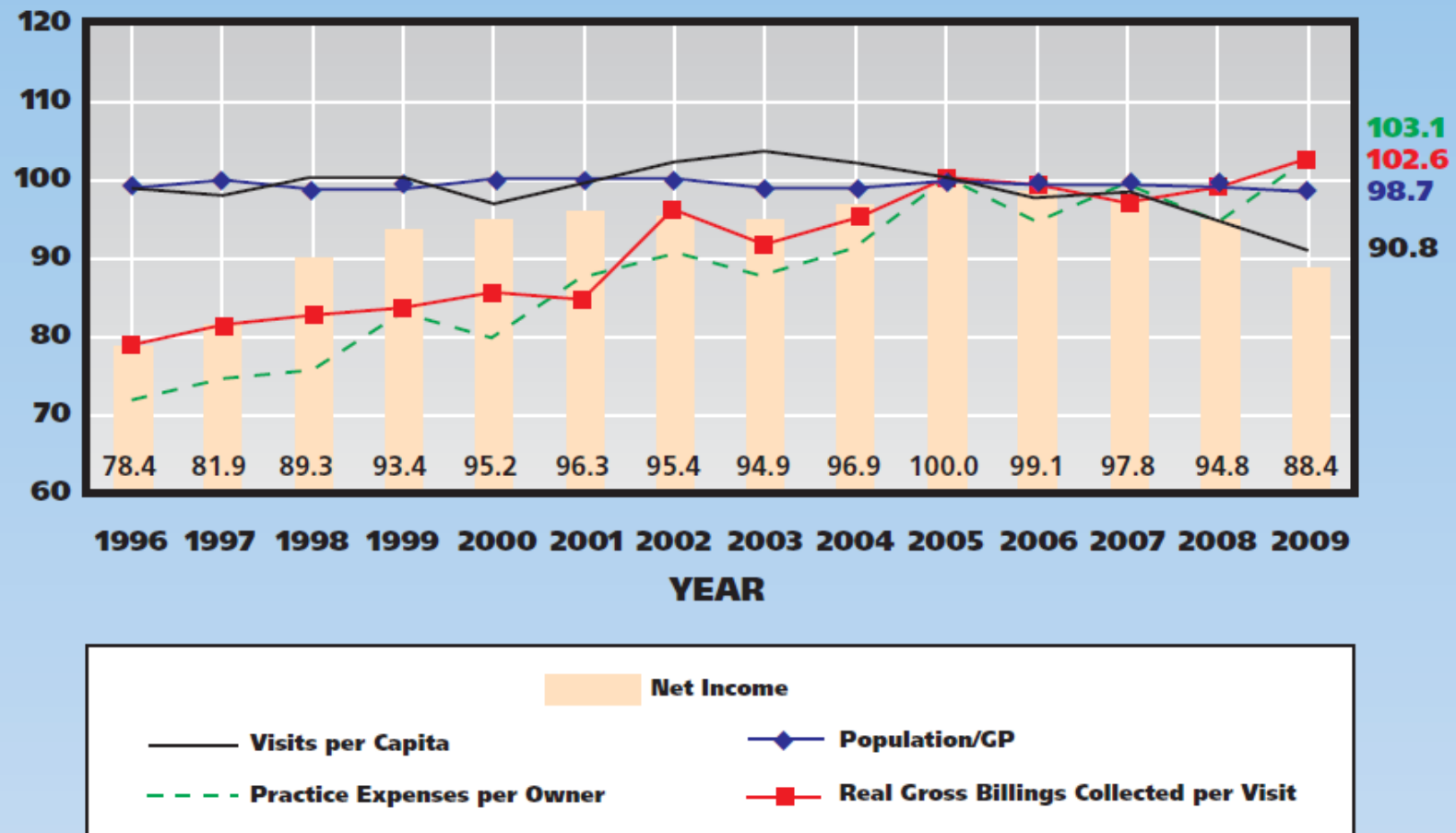


Figure 2. General practitioners' (GPs') real net income and all explanatory variables index (all variable values indexed to 100 in 2005).

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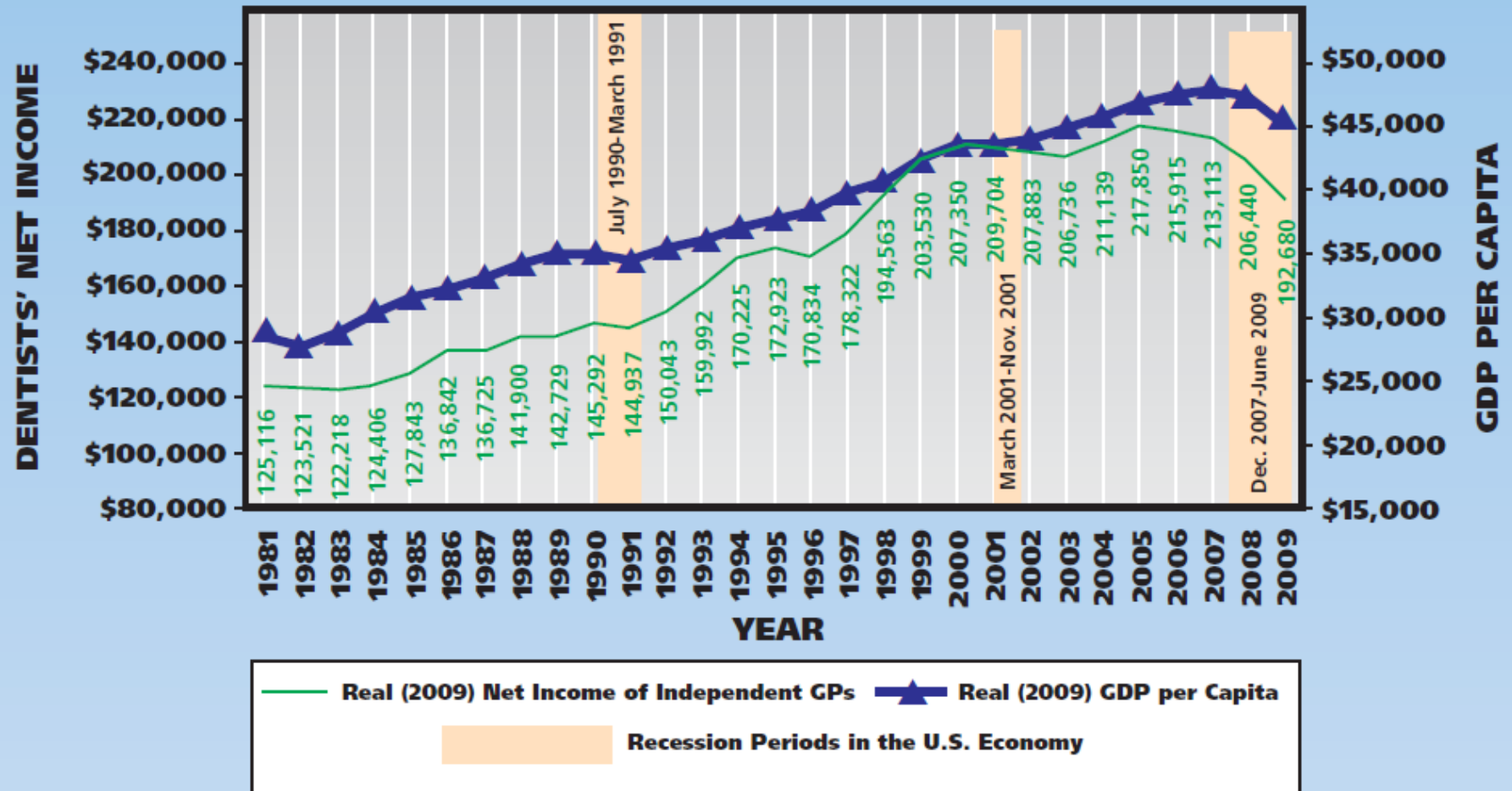
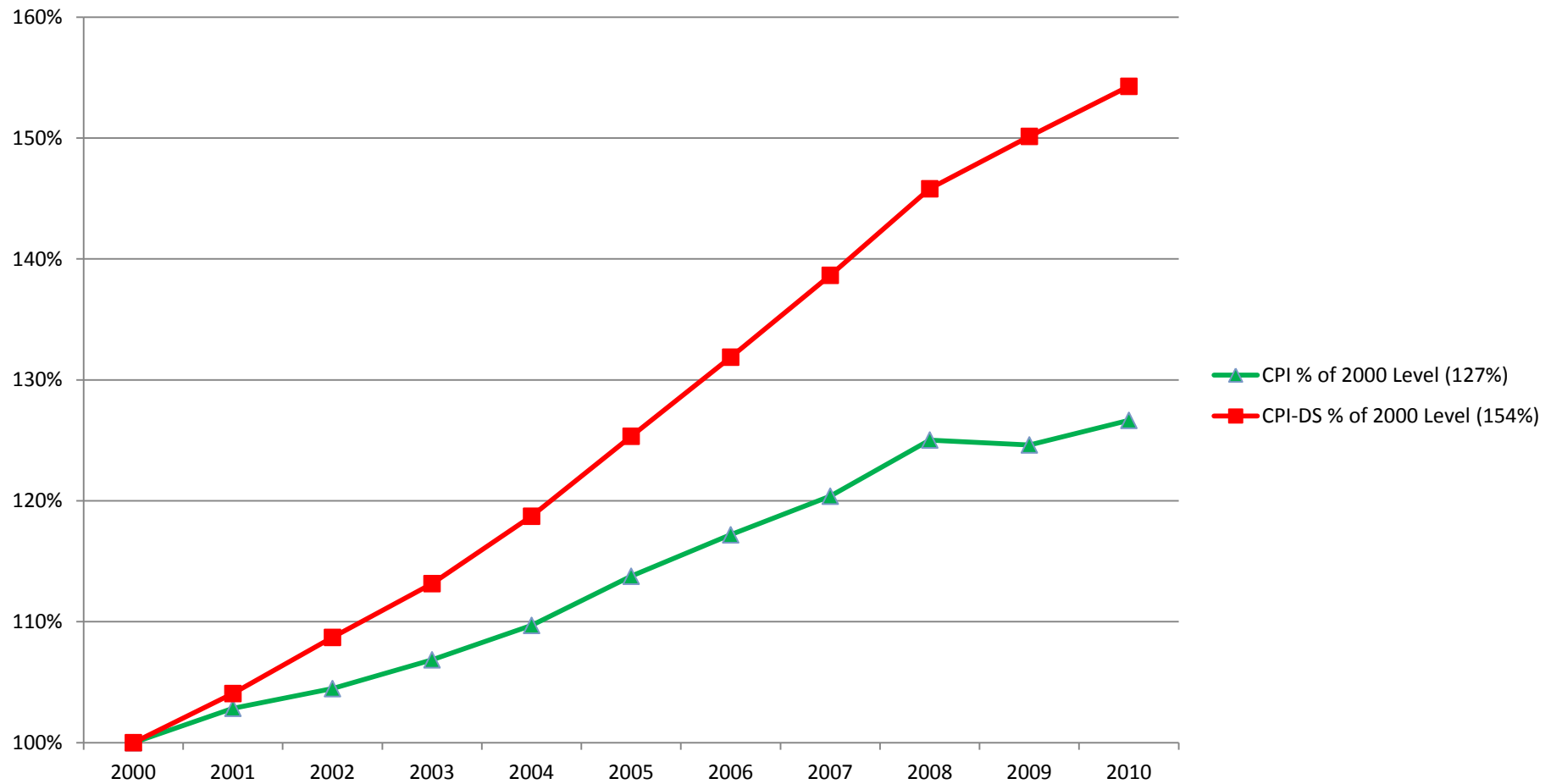


Figure 1. Average real (base = 2009) net income of independent general practitioners (GPs) and real gross domestic product (GDP) per capita, 1981-2009.¹⁻¹⁴ Information on recession periods from National Bureau of Economic Research.¹⁵

Oral Health Expenses

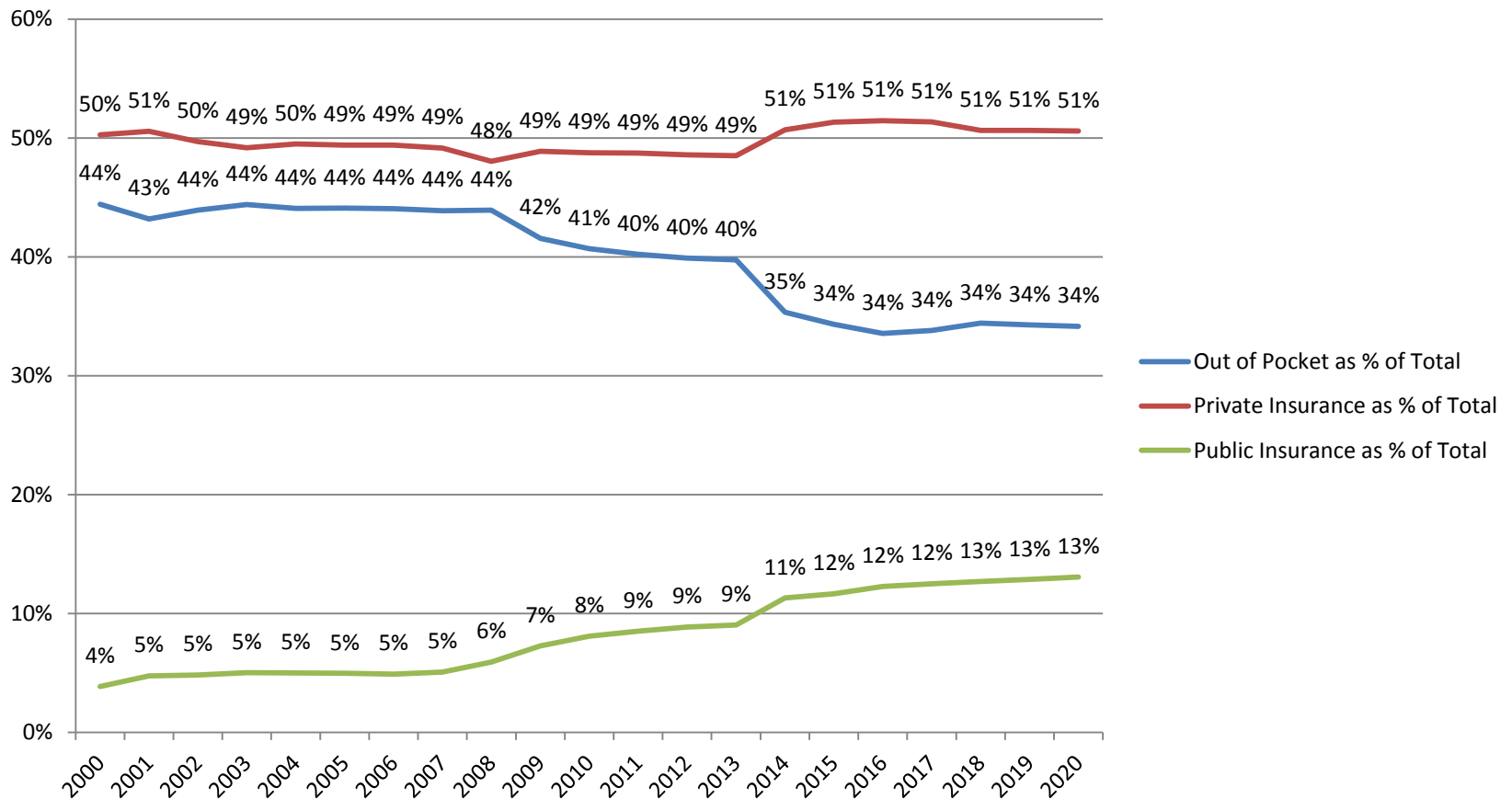
Consumer Price Index (CPI) and CPI for Dental Services (% of 2000 dollars)



Source: American Dental Association. Consumer Price Index for Dental Services, 1970-2010. March 2011.

Payers of Oral Health Expenses

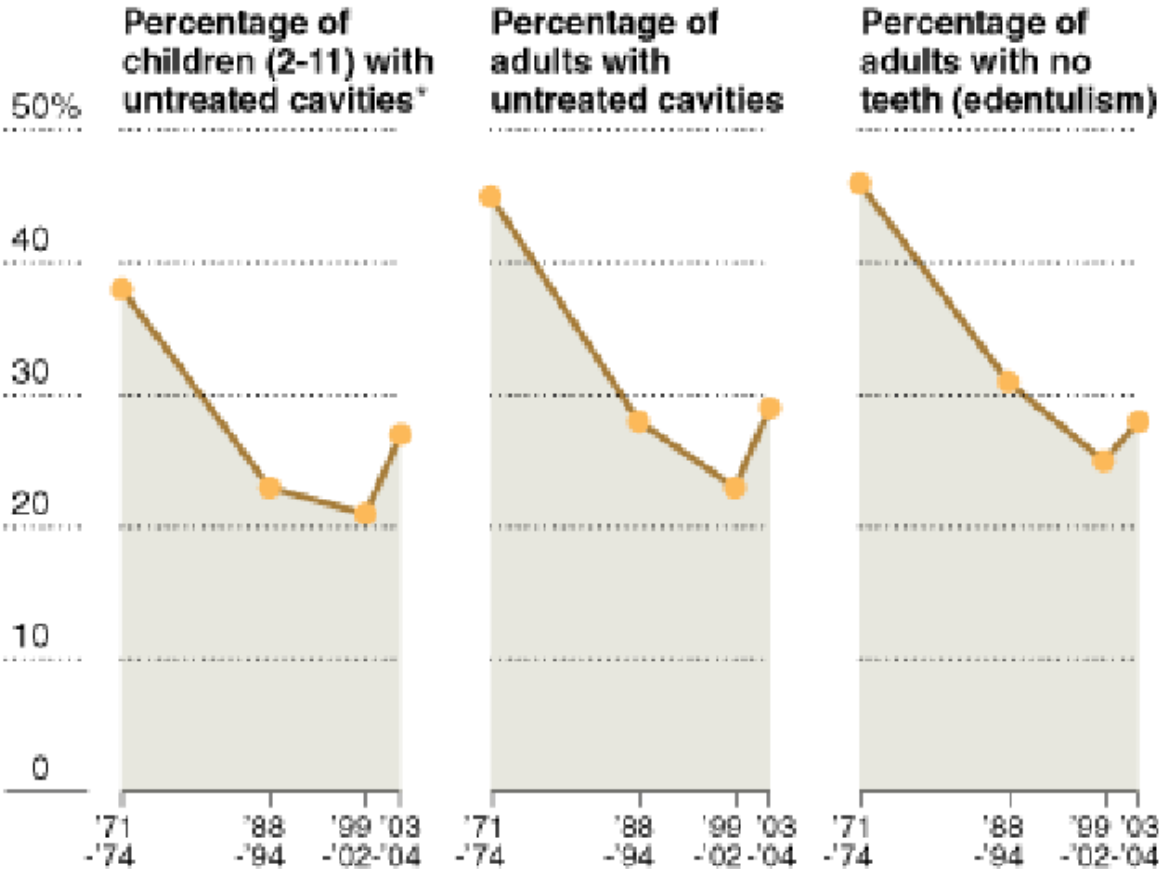
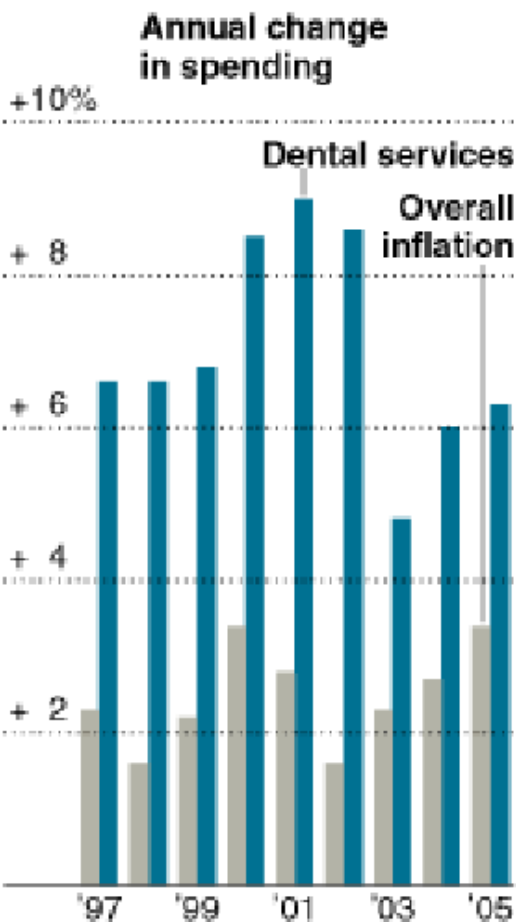
**National Dental Expenses 2000 - 2020
as % of Total National Dental Expenditures**



Source: CMS National Health Expenditure Projections 2010-2020
<http://www.cms.gov/NationalHealthExpendData/downloads/proj2010.pdf>

More Spending, but More Decay

Spending on dental services has been rising faster than overall prices for the last decade. But an intermittent survey by the government indicates that the state of the nation's dental health has deteriorated recently, after decades of improvement.



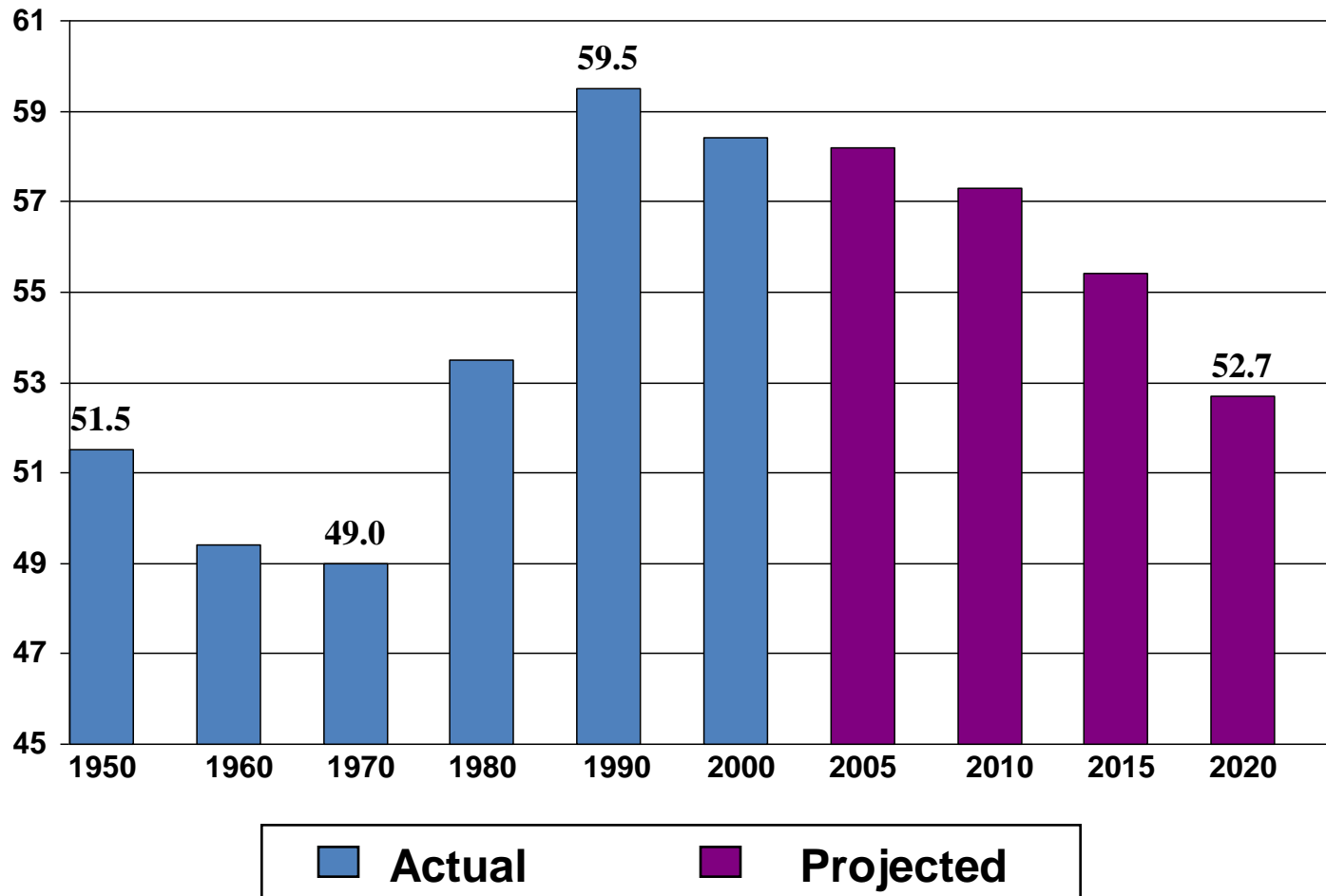
* Primary (baby) teeth only; '71-'74 data is for children age 2-10.

CDC DOH – Untreated Dental Caries in Children



Dentists per 100,000 U.S. Population 1950-2020

(Valachovic et al. JDE, 2001)

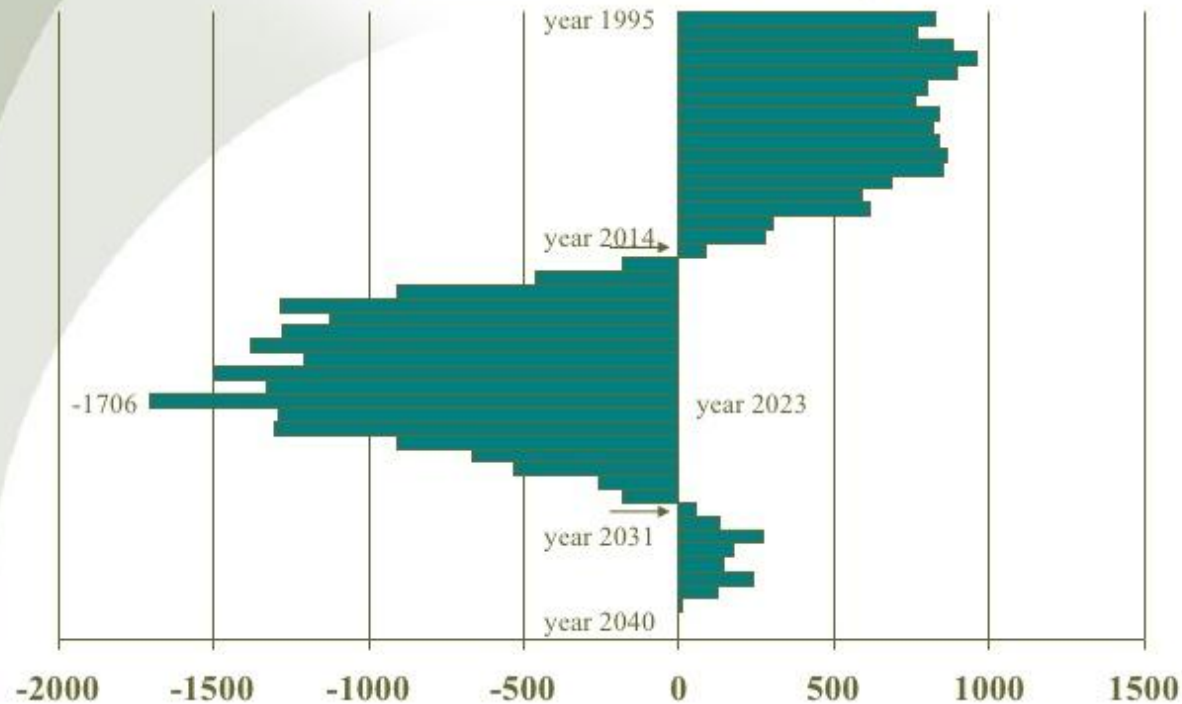


Source: Bureau of Health Professions, HRSA, DHHS. Data from the Eighth Report to Congress 1991 and unpublished reports.

Trends in dentist workforce

Estimated Additions of Dentists to the Dental Workforce: 1995-2040

(Valachovic et al. JDE, 2001)



Assumptions: number of graduates remains at 4050
retirement age of 65

Source: American Association of Dental Schools

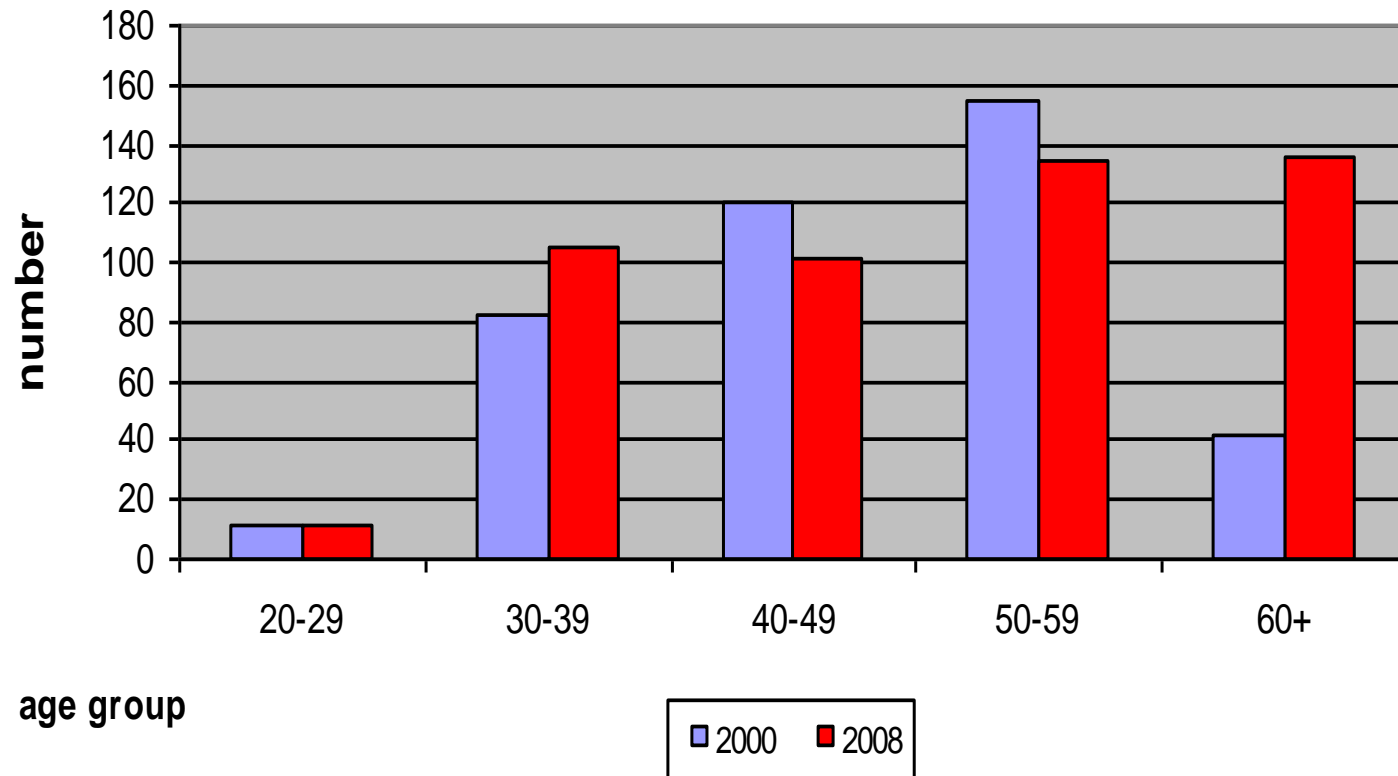
Alaska Dental Workforce

- Dentists (2009): 465
 - Anchorage: 233
 - Orthodontists: 26.75
 - Pediatric Dentists: 18.25
 - Oral Surgeons: 18
 - Endodontists: 12
 - Periodontists: 5
 - Prosthodontists: 6
- Dentist-Population Ratio:
 - Alaska 1:1,480
 - Anchorage: 1:1,220
 - Seattle (2006) 1:948
 - U.S. 1:1,640
 - HRSA Shortage: 1:5,000 or 1:4,000 (high needs population)



Dental Demographics (Alaska) – Aging Workforce

Alaska Dentist Distribution by Age Group: 2000 and 2008



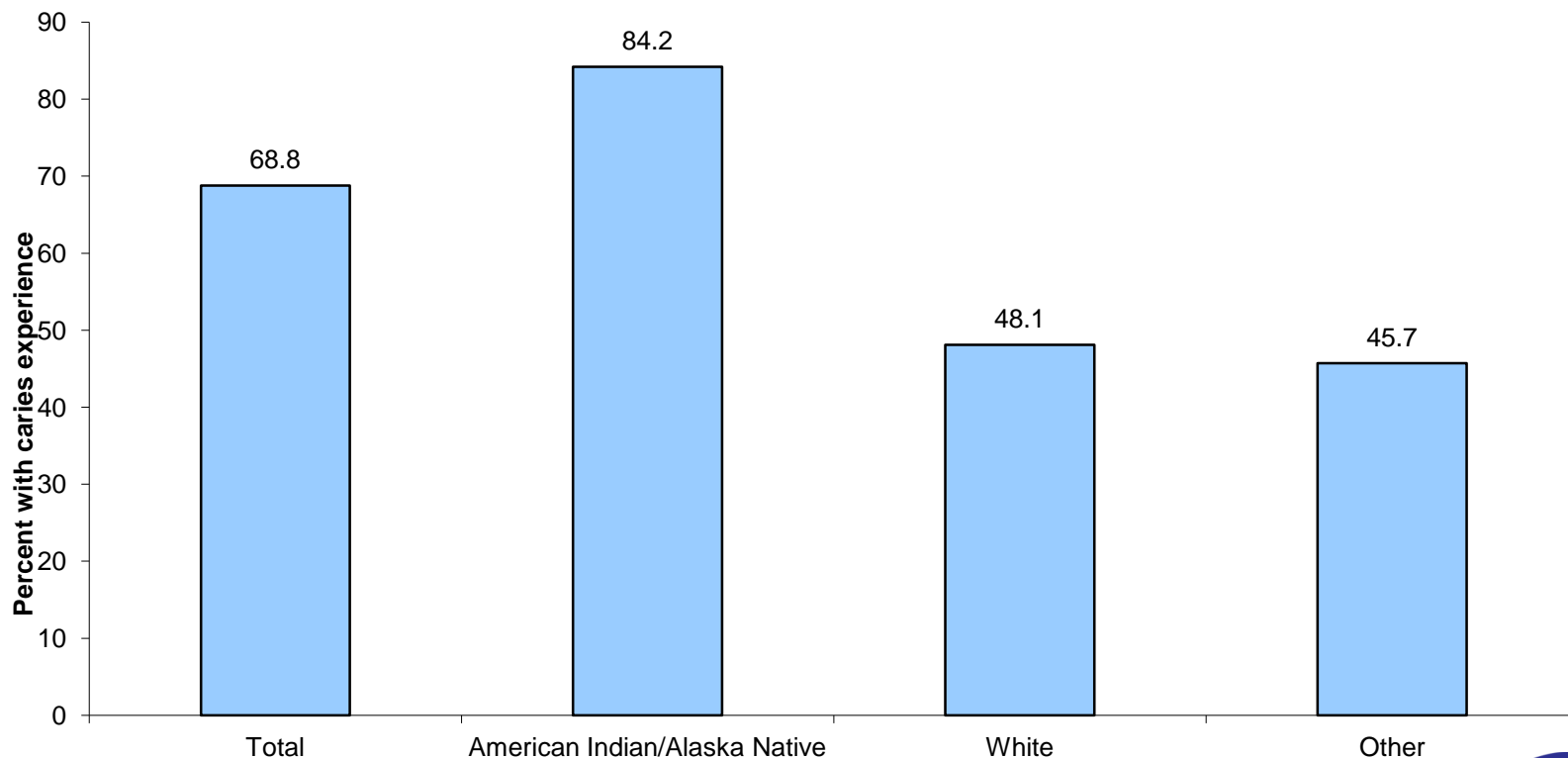
Changes in Alaska Dental Workforce

- Likely Alaska (and U.S.) will see more dentists retire than new dentists begin practice over the next decade.
- Medical provider collaboration to reduce Early Childhood Caries - dentists typically see children at age 3-4 which is too late for high risk children
- Expansion of FQHC/CHC dental programs
- ANMC Pediatric Dental Residency Program
- Tribal Dental Health Aide Program
- Slow shift in moving from a surgical model of dental care to an infectious disease model of care
- Dental hygienist practice under collaborative agreements



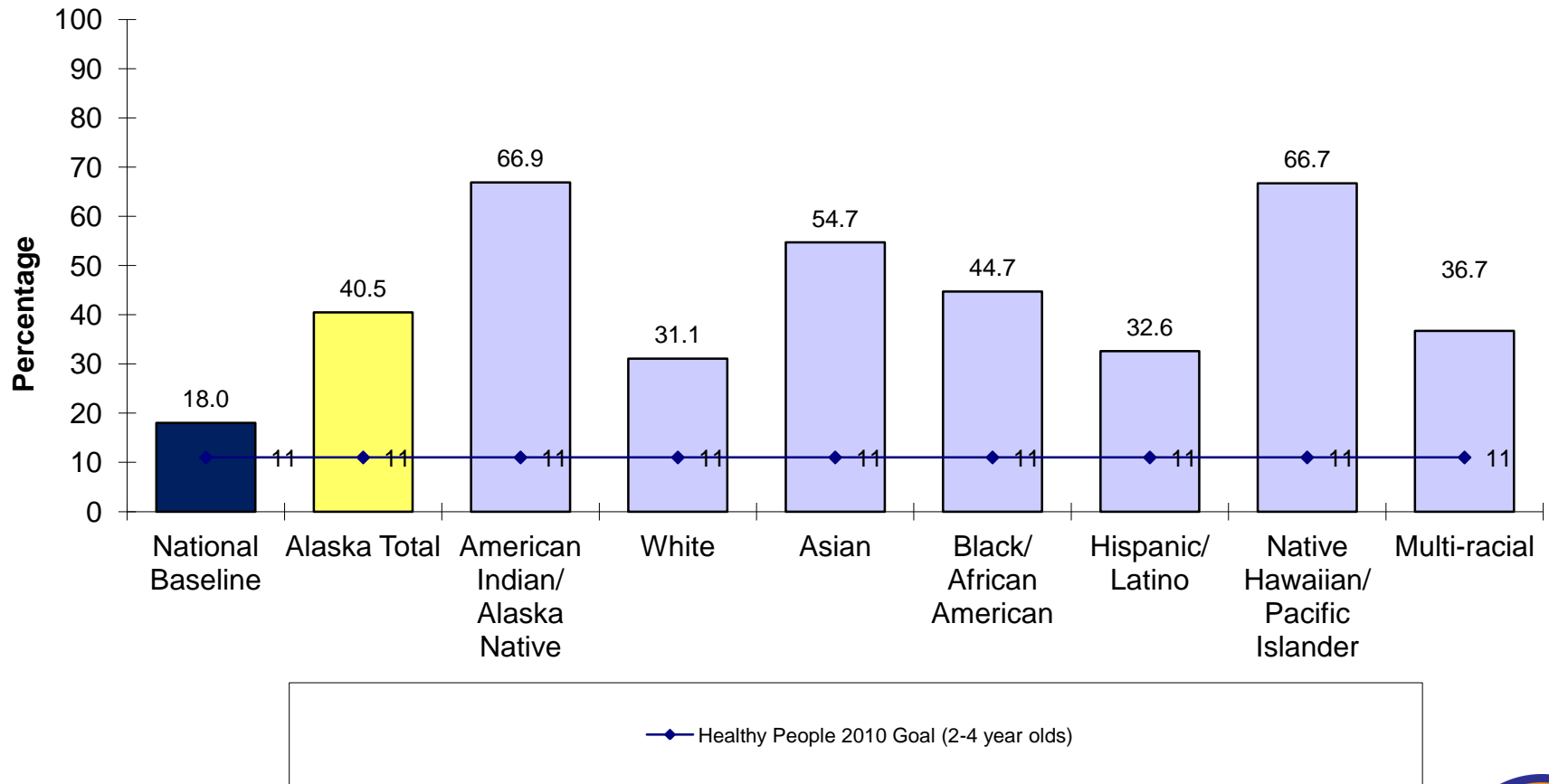
Caries (Dental Decay) Experience – Alaska Head Start (2005)

Percent of Head Start Children with Caries Experience by Race



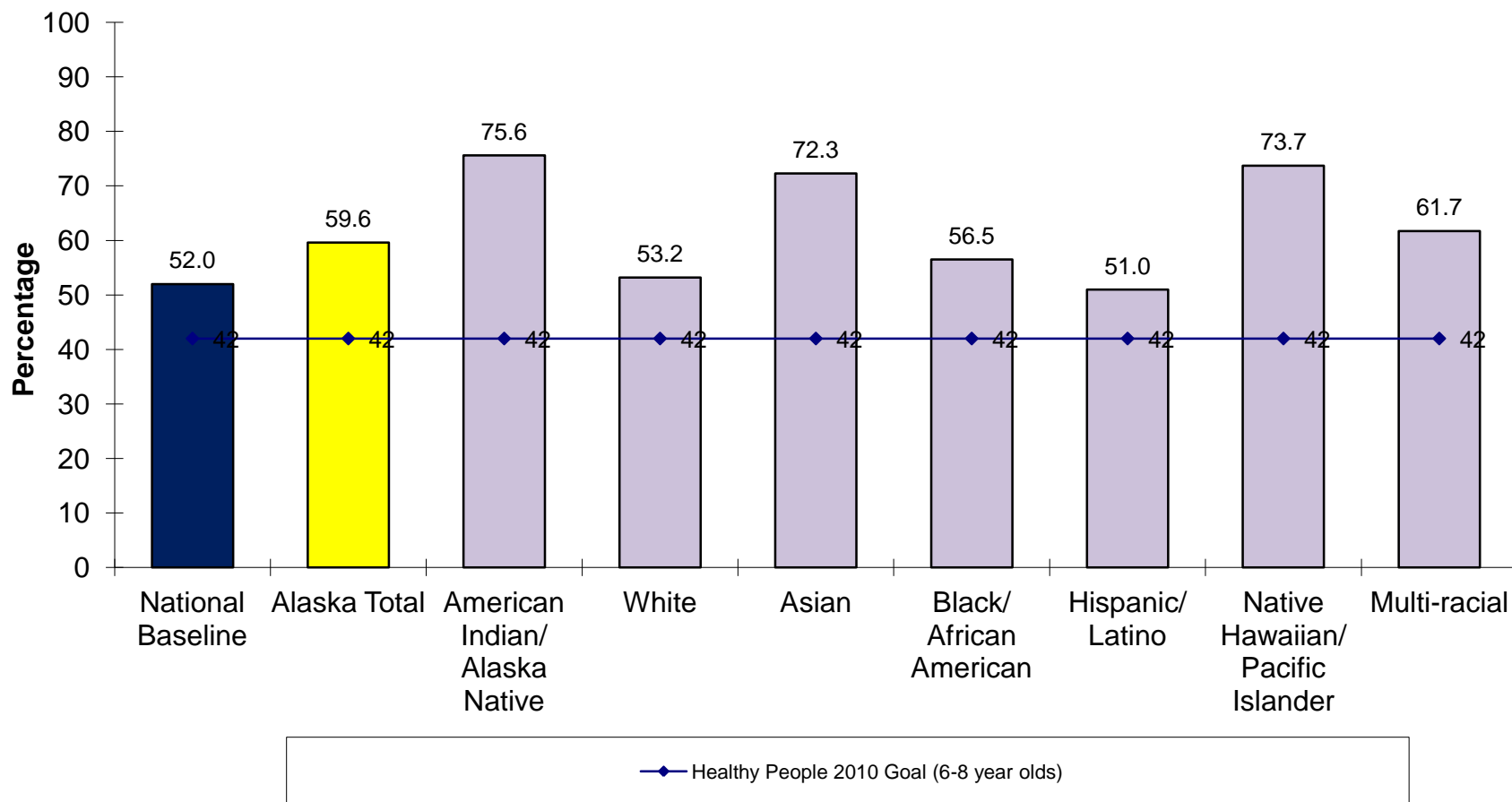
Caries Experience: Alaska Kindergarteners (2007)

Percent of Kindergarten with Caries Experience by Race - 2007



Caries Experience (Dental Decay): Alaska 3rd graders (2007)

Percent of Third Graders with Caries Experience by Race - 2007
N=820



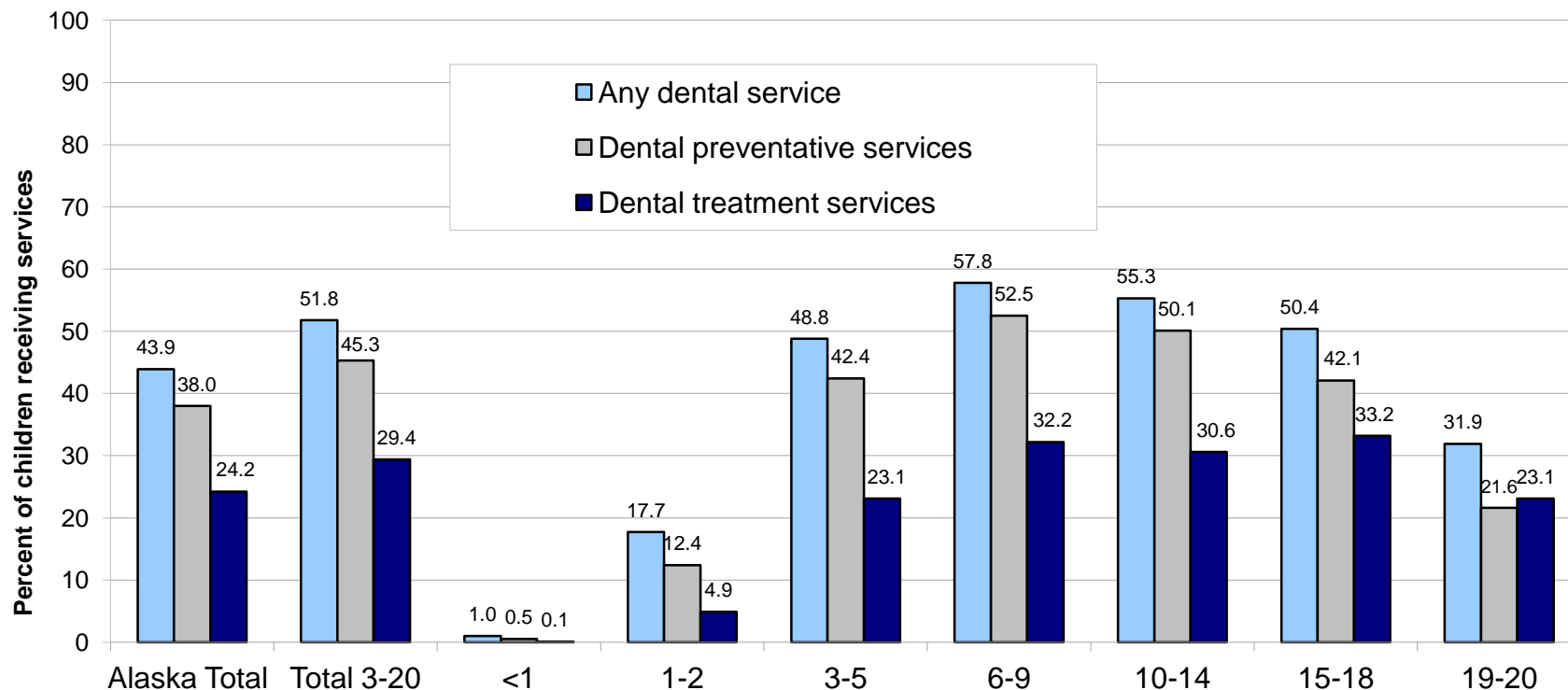
Other High Caries Risk Groups

- Low income children (Medicaid)
- Low income seniors
- Children/youth with special health care needs and adults with disabilities



Medicaid: Child Dental Utilization (by age group)

Medicaid - Percent of children receiving dental services by age & type of service, FFY2011

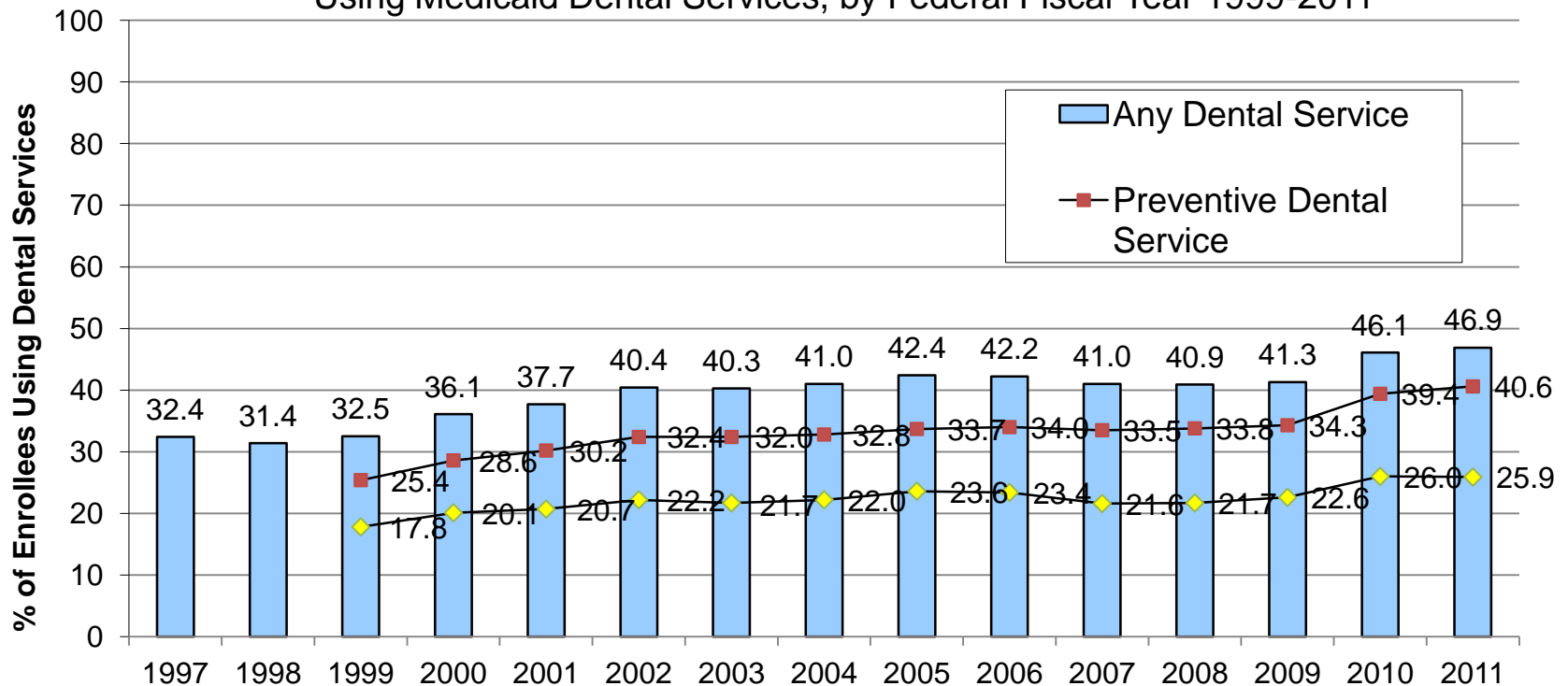


Source: AK MMIS CMS-416 – Annual EPSDT Participation Report 3/31/2011



Medicaid: Child Dental Utilization (Trends)

Percent of Children Enrolled in Medicaid (Aged 1-20)
Using Medicaid Dental Services, by Federal Fiscal Year 1999-2011



Source: AK MMIS CMS-416 – Annual EPSDT Participation Report 3/31/2011



Fees and Reimbursement – General Comparisons

- Medicaid reimbursement: 91.4% of the national median retail fees for common procedures on enrolled children (2010) - PEW Center on the States analysis.
- Pacific NW Region average fee is 15-20% higher than national average for preventive, diagnostic and routine restorative dental services (comparing 2009 ADA fee profiles for common dental procedures).
- Alaska average fees 10-15% higher than Pacific NW average (15-37% higher than the national average) – common dental procedures comparing ADA fee profiles to Division of Retirement and Benefits claims information.
- Alaska Care maximum allowable for common dental procedures 45-75% higher than the ADA national average fees.

Other Health Care Costs

- Severe Early Childhood Caries (ECC) and speech development
- Treatment of severe ECC – facility and general anesthesia
- Emergency room use and uncompensated care
- Medicaid transportation
- Complications with other chronic disease – e.g., diabetes



Cost Management

- Case history
- Diagnosis codes
- Managed care
- Establishing UCR
- Medicaid reimbursement



Potential Means to Reduce Oral Health/Dental Expenditures

Community Water Fluoridation

Community Water Fluoridation: The single most cost effective means to reduce tooth decay in the population



Enamel Fluorosis

– cosmetic barely noticeable white flecking or striations in tooth enamel



Potential Means to Reduce Dental Expenditures

- **COMMUNITY WATER FLUORIDATION**
 - 29% reduction in tooth decay in children
 - 27% reduction in tooth decay in adults
- **FLUORIDE SUPPLEMENTS AND TOPICAL FLUORIDES** (fluoride varnish – delegation to nurses)
- **OTHER THERAPUETICS** – XYLITOL, IODINE PRODUCTS . . .
- **SCHOOL-BASED DENTAL SEALANT PROGRAMS** (schools with 50% or more of students eligible for the free and reduced school lunch program)
- **NUTRITION** – SODA AND SUGAR SWEETENED BEVERAGES
- **REDUCE USE OF TOBACCO** – caries, periodontal disease and oral cancer
- **INCREASING EFFICIENCY**
 - Group practice (reducing administrative expenses/overhead)
 - Expanded function dental assistants
 - Maximizing use of dental hygienists – including implementation of collaborative dental hygienist practice models
 - Alternative dental providers



Potential Means to Reduce Dental Expenditures (continued)

- **ENCOURAGING FQHC/CHC PRACTICE BEYOND THE FACILITY**
 - SCHOOLS
 - ASSISTED LIVING AND OTHER LONG-TERM CARE SETTINGS
 - SHARP loan repayment and direct incentives
- **VIRTUAL DENTAL HOME (CALIFORNIA - Dr. Paul Glassman)**
- **TRIBAL** – Increased capacity and adult dental care
- **INFECTIOUS DISEASE MODEL OF DENTAL CARE**
 - Prevention and early detection (referral)
 - Reduce general anesthesia cases for ECC treatment
 - Shift provider resources to higher risk populations
- **LOOK AT MEDICAID EPSDT GUIDANCE** – Age one dental visit
- **PAYER MANAGEMENT ASPECTS**



Questions??

Email: bradley.whistler@alaska.gov
(907) 465-8628

